

10/510363

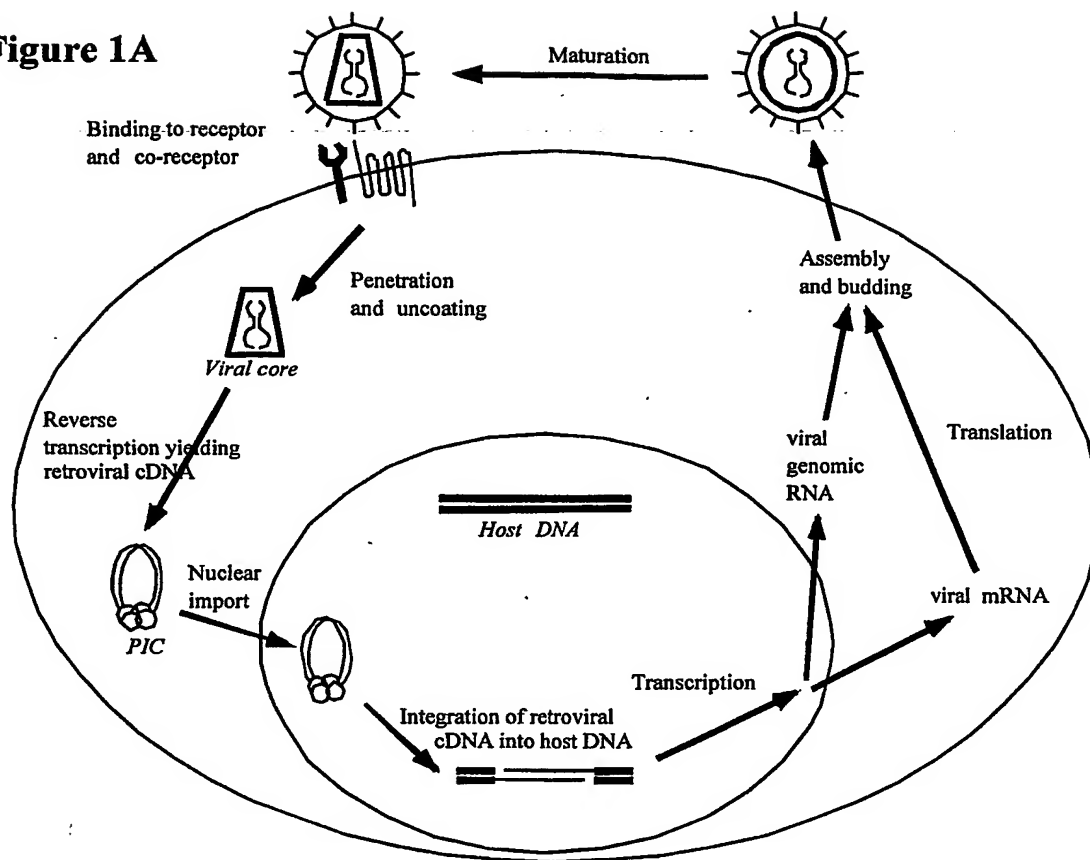
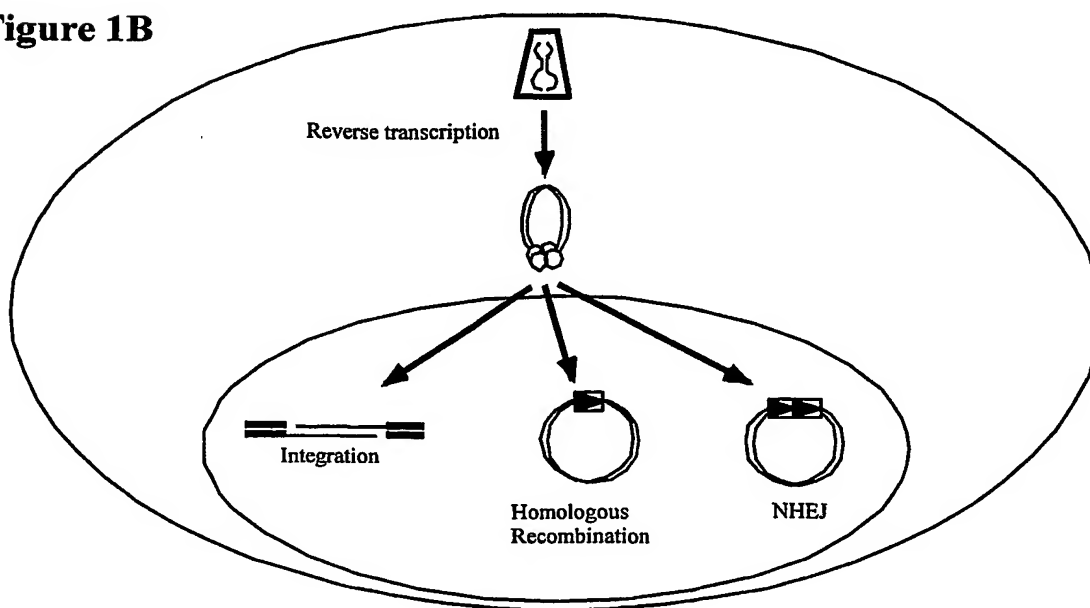
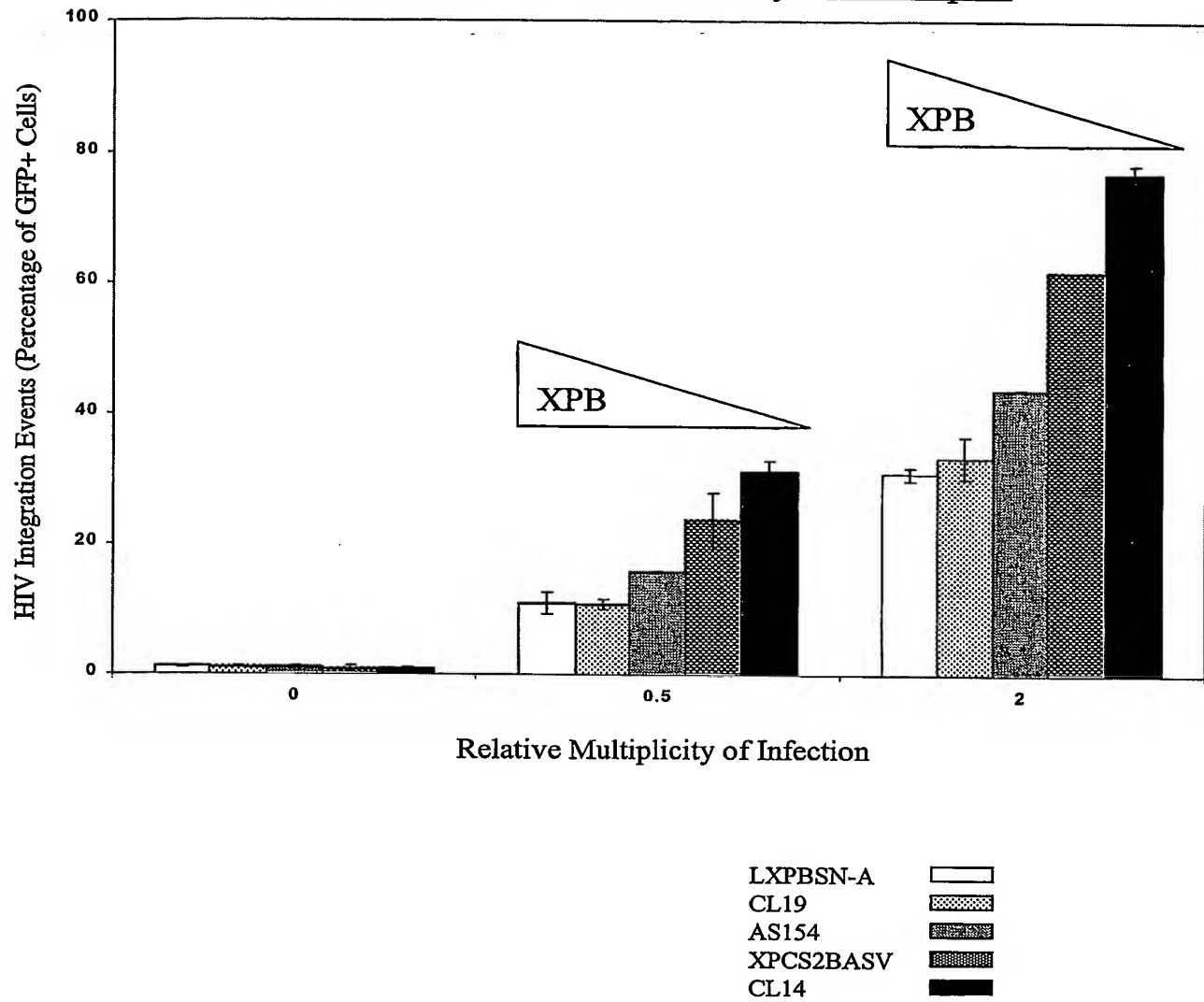
Figure 1A**Figure 1B**

Figure 2
HIV Integration Is Controlled By DNA Repair



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Figure 3A
Retroviral Provirus

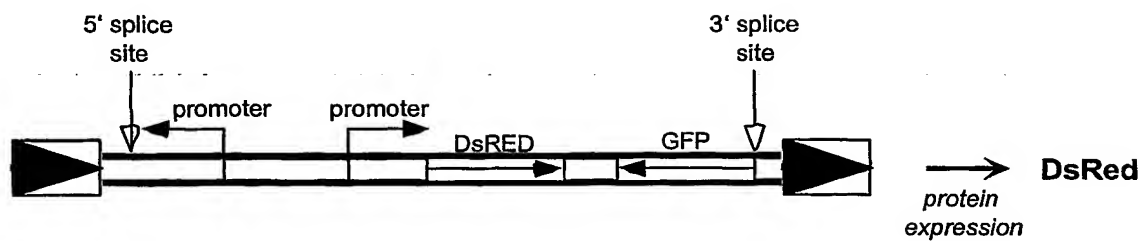
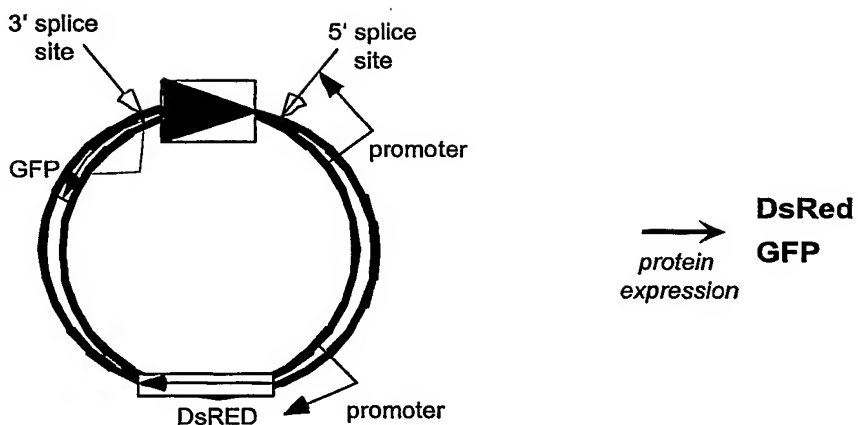


Figure 3B
Retroviral 1-LTR Circle



Retroviral 2-LTR Circle

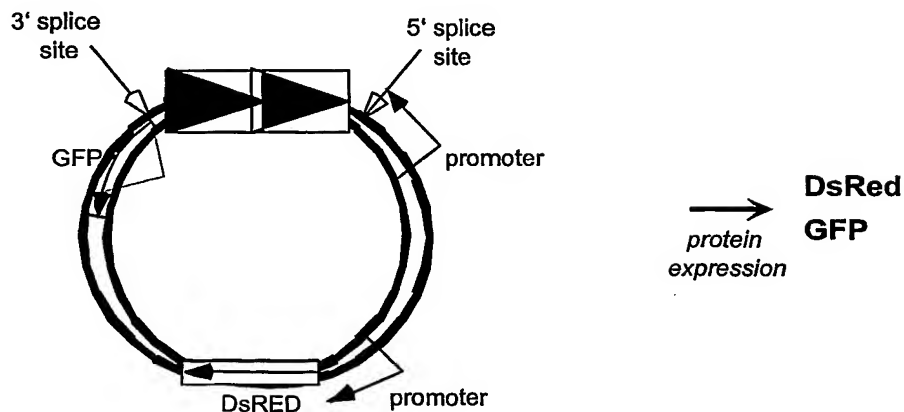


Figure 4A

1 GGGAGCTTCCGGATTGAGCCGGAAGTCCCCCAGAGCGGATGCCGCGGCGGGCCTGTGGG
61 AGCGGGGTCATCTTCTCTCTGCTGCTGTAGCTGCCATGGGCAAAAGAGACCGAGCGGACC
121 GCGACAAGAAGAAATCCAGGAAGCGGCACCTATGAGGATGAAGAGGATGATGAAGAGGACG
181 CCCCCGGGAACGACCCTCAGGAAGCGGTTCCCTCGGCGGCGGGGAAGCAGGTGGATGAGT
241 CAGGCACCAAAGTGGATGAATATGGAGCCAAGGACTACAGGCTGCAAATGCCGCTGAAGG
301 ACGACCACACCTCCAGGCCCTCTGGGTGGCTCCCGATGGCCATATCTTCTTGGAAGCCT
361 TCTCTCCAGTTTACAAATATGCCCAAGACTTCTTGGTGGCTATTGCAGAGCCAGTGTGCC
421 GACCAACCCATGTGCATGAGTACAACTAACTGCCTACTCCTTGTATGCAGCTGTGAGCG
481 TTGGGCTGCAAACCAAGTGACATCACCGAGTACCTCAGGAAGCTCAGCAAGACTGGAGTCC
541 CTGATGGAATTATGCAGTTTATTAAGTTGTGTACTGTGAGCTATGGAAAAGTCAAGCTGG
601 TCTTGAAGCACAACAGATACTTCGTTGAAAGTTGCCACCCTGATGTAATCCAGCATCTTC
661 TCCAGGACCCCGTGATCCGAGAATGCCGCTTAAGAACTCTGAAGGGGAGGCCACTGAGC
721 TCATCACAGAGACTTTCACAAGCAAATCTGCCATTTCTAAGACTGCTGAAAGCAGTGGTG
781 GGCCCTCCACTTCCCGAGTGACAGATCCACAGGGTAAATCTGACATCCCCATGGACCTGT
841 TTGACTTCTATGAGCAAATGGACAAGGATGAAGAAGAAGAAGAAGAGACACAGACAGTGT
901 CTTTTGAAGTCAAGCAGGAAATGATTGAGGAACCTCAGAAACGTTGCATCCACCTGGAGT
961 ACCCTCTGTTGGCAGAATATGACTTCCGGAATGATTCTGTCAACCCTGATATCAACATTG
1021 ACCTAAAGCCCACAGCTGTCTCAGACCCTATCAGGAGAAGAGCTTGCGAAAGATGTTTG
1081 GAAACGGGCGTGACGTTCCGGGGTCATTGTTCTTCCCTGCGGTGCTGGAAAGTCCCTGG
1141 TTGGTGTGACTGCTGCATGCACTGTGAGAAACGCTGTCTGGTGCTGGGCAACTCAGCTG
1201 TTTCTGTGGAGCAGTGGAAAGCCCAGTTCAAGATGTGGTCCACCATTGACGACAGCCAGA
1261 TCTGCCGGTTCACCTCCGATGCCAAGGACAAGCCCATCGGCTGCTCCGTTGCCATTAGCA
1321 CCTACTCCATGCTGGGCCACACCACCAAAGGTCTGGGAGGCCGAGCGAGTCATGGAGT
1381 GGCTCAAGACCCAGGAGTGGGGCCTCATGATCCTGGATGAAGTGACACCATACCAGCCA
1441 AGATGTTCCGAAGGGTGCTCACCATCGTGACGGCCCACTGTAAGCTGGGTTTGACTGCGA
1501 CCCTCGTCCGCGAAGATGACAAAATTTGTGGATTTAAATTTTCTGATTGGGCCTAAGCTCT
1561 ACGAAGCCAACTGGATGGAGCTGCAGAATAATGGCTACATCGCCAAAGTCCAGTGTGCTG
1621 AGGTCTGGTGCCCTATGTCTCCTGAATTTTACCGGGAATATGTGGCAATCAAAACCAAGA
1681 AACGAATCTTGCTGTACACCATGAACCCCAACAAATTTAGAGCTTGCCAGTTTCTGATCA
1741 AGTTTCATGAAAGGAGGAATGACAAGATTATTGTCTTTGCTGACAATGTGTTTGCCCTAA
1801 AGGAATATGCCATTCGACTGAACAAACCCTATATCTACGGACCTACGTCTCAGGGGGAAA
1861 GGATGCAAATTTCTCCAGAATTTCAAGCACAACCCCAAAATTAACACCATCTTCATATCCA
1921 AGGTAGGTGACACTTCGTTTGATCTGCCGGAAGCAAATGTCCTCATTCAGATCTCATCCC
1981 ATGGTGGCTCCAGGCGTCAGGAAGCCCAAGGCTAGGGCGGGTGCTTCGAGCTAAAAAAG
2041 GGATGGTTGCAGAAGAGTACAATGCCTTTTTCTACTCACTGGTATCCCAGGACACACAGG
2101 AAATGGCTTACTCAACCAAGCGGCAGAGATTCTTGGTAGATCAAGGTTATAGCTTCAAGG
2161 TGATCACGAACTCGCTGGCATGGAGGAGGAAGACTTGGCGTTTTTCGACAAAAGAAGAGC
2221 AACAGCAGCTCTTACAGAAAGTCCTGGCAGCCACTGACCTGGATGCCGAGGAGGAGGTGG
2281 TGGCTGGGGAATTTGGCTCCAGATCCAGCCAGGCATCTCGGCGCTTTGGCACCATGAGTT
2341 CTATGTCTGGGGCCGACGACACTGTGTACATGGAGTACCACTCATCGCGGAGCAAGGCGC
2401 CCAGCAAACATGTACACCCGCTCTTCAAGCGCTTTAGGAAATGATGCTTAGGCAGGGTAC
2461 TTCGTTCAAGACCGGCGCTTGGCACCCCTTGTTGGAAAGGGATTTTCAGCATAACATTTTC
2521 CTTCCACCTCTTTGACCTTCCCTCCAGCGTTGGCCAAATTTGTGCTGAGGAAGATGCATCA
2581 AGGGCTTGGCTGTGCCTTCATAGGTCATCTAGGGTTTTATAAAGGAGGAGGAGACAATAT
2641 TTTTTCAAACTTTTTGGGGAGTGGGGTCATTTCTGTATATAAAAAATGTTAATATTTAAG
2701 GTGTATTTATGTTACCGTTCTGAATAAACAGAATGGACCATTGAACCAAGTA

Figure 4B

MGKRDRADRDKKKSRKRHYEDEDDEEDAPGNDPQEAVPSAAGKQVDESGTKVDEYGAKDYRLQ
MPLKDDHTSRPLWVAPDGHIFLEAFSPVYKYAQDFLVAIAEPVCRPTHVHEYKLTAYSLYAAS
VGLQTS DITEYLRKLSKTGVPDGIMQFIKLC TVSYGKVKLVLKHNRYFVESCHPDV IQHLLQDP
VIRECRLRNSEGEATELITETFTSKSAISKTAESSGGPSTSRVTD PQGKSDIPMDLFD FYEQMD
KDEEEEEETQTVSFEVKQEMIEELQKRCIHLEYPLLA EYDFRNDSVNPDINIDLKPTAVLRPYQ
EKSLRKMFGNGRARGVIVLPCGAGKSLVGVTAACTVRKRCLVLGNSAVSVEQWKAQFKMWSTI
DDSQICRFTSDAKDKPIGCSVAISTYSMLGHTTKRSWEAERVM EWLKTQEWGLMILDEVHTIPA
KMFRRVLTIVQAHCKLGLTATLVREDDKIVDLN FLIGPKLYEANWMELQNNGYIAKVQCAEVWC
PMSPEFYREYVAIKTKKRILLYTMNPNKFRACQFLIKFHERRNDKIIVFADNVFALKEYAIRLN
KPYIYGPTSQGERMQILQNFKNPKINTIFISKVGDTSFDLPEANVLIQISSHGGSRRQEAQRL
GRVLRAKKGMVAEEYN AFFYSLVSQDTQEMAYSTKRQRFLVDQGY SFKVITKLAGEEEDLAFS
TKEEQQQLLQKVLAATDLDAEEEVVAGEFGSRSSQASRRFGTMSMSGADDTVYMEYHSSRSKA
PSKHVHPLFKRFRK

Figure 4C

1 ATGAAGCTCAACGTGGACGGGCTCCTGGTCTACTTCCCGTACGACTACATCTACCCCGAG
61 CAGTTCTCCTACATGCGGGAGCTCAAACGCACGCTGGACGCCAAGGGTCATGGAGTCCTG
121 GAGATGCCCTCAGGCACCGGGAAGACAGTATCCCTGTTGGCCCTGATCATGGCATAACAG
181 AGAGCATATCEGCTGGAGGTGAECAAACTCATCTACTGCTCAAGAACTGTGCCAGAGATT
241 GAGAAGGTGATTGAAGAGCTTCGAAAGTTGCTCAACTTCTATGAGAAGCAGGAGGGCGAG
301 AAGCTGCCGTTTCTGGGACTGGCTCTGAGCTCCCGCAAAAACCTTGTGTATTACCCCTGAG
361 GTGACACCCCTGCGCTTTGGGAAGGACGTGCGATGGGAAATGCCACAGCCTCACAGCCTCC
421 TATGTGCGGGCGCAGTACCAGCATGACACCAGCCTGCCCCACTGCCGATTCTATGAGGAA
481 TTTGATGCCCATGGGCGTGAGGTGCCCTCCCCGCTGGCATCTACAACCTGGATGACCTG
541 AAGGCCCTGGGGCGGCGCCAGGGCTGGTGCCCATACTTCTTGCTCGATACTCAATCCTG
601 CATGCCAATGTGGTGGTTTATAGCTACCACTACCTCCTGGACCCCAAGATTGCAGACCTG
661 GTGTCCAAGGAACTGGCCCGCAAGGCCGTGCTGGTCTTCGACGAGGCCCAACATTGAC
721 AACGTCTGCATCGACTCCATGAGCGTCAACCTCACCCGCCGGACCCTTGACCGGTGCCAG
781 GGCAACCTGGAGACCCTGCAGAAGACGGTGCTCAGGATCAAAGAGACAGACGAGCAGCGC
841 CTGCGGGACGAGTACCGGCGTCTGGTGGAGGGGCTGCGGGAGGCCAGCGCCGCCCGGGAG
901 ACGGACGCCACCTGGCCAACCCCGTGCTGCCCGACGAAGTGCTGCAGGAGGCAGTGCCT
961 GGCTCCATCCGCACGGCCGAGCATTTCTGCGCTTCCTGAGGCGGCTGCTGGAGTACGTG
1021 AAGTGGCGGCTGCGTGTGCAGCATGTGGTGCAGGAGAGCCCGCCCGCCTTCCTGAGCGGC
1081 CTGGCCCAGCGCGTGTGCATCCAGCGCAAGCCCCTCAGATTCTGTGCTGAACGCCTCCGG
1141 TCCCTGCTGCATACTCTGGAGATCACCGACCTTGCTGACTTCTCCCCGCTCACCTCCTT
1201 GCTAACTTTGCCACCCTTGTCAGCACCTACGCCAAAGGCTTCACCATCATCATCGAGCCC
1261 TTTGACGACAGAACCCCGACCATTGCCAACCCCATCCTGCACTTCAGCTGCATGGACGCC
1321 TCGCTGGCCATCAAACCCGTATTTGAGCGTTTCCAGTCTGTATCATCACATCTGGGACA
1381 CTGTCCCCGCTGGACATCTACCCCAAGATCCTGGACTTCCACCCCGTCACCATGGCAACC
1441 TTCACCATGACGCTGGCACGGGTCTGCCTCTGCCCTATGATCATCGGCCGTGGCAATGAC
1501 CAGGTGGCCATCAGCTCCAAATTTGAGACCCGGGAGGATATTGCTGTGATCCGGAACAT
1561 GGGAACCTCCTGCTGGAGATGTCCGCTGTGGTCCCTGATGGCATCGTGGCCTTCTTCACC
1621 AGCTACCAGTACATGGAGAGCACCGTGGCTCCTGGTATGAGCAGGGGATCCTTGAGAAC
1681 ATCCAGAGGAACAAGCTGCTCTTTATTGAGACCCAGGATGGTGCCGAAACCAGTGTGCGC
1741 CTGGAGAAGTACCAGGAGGCCTGCGAGAATGGCCGCGGGGCCATCCTGCTGTGAGTGGCC
1801 CGGGGCAAAGTGTCCGAGGGAATCGACTTTGTGCACCACTACGGGCGGGGCCGTATCATG
1861 TTTGGCGTCCCCTACGTCTACACACAGAGCCGCATTCTCAAGGCGCGGCTGGAATACCTG
1921 CGGGACCAGTTCAGATTCTGTGAGAATGACTTTCTTACCTTCGATGCCATGCGCCACGCG
1981 GCCCAGTGTGTGGGTGCGGCCATCAGGGGCAAGACGGACTACGGCCTCATGGTCTTTGCC
2041 GACAAGCGGTTTGCCCGTGGGGACAAGCGGGGGAAGCTGCCCCGCTGGATCCAGGAGCAC
2101 CTCACAGATGCCAACCCTCAACCTGACCGTGGACGAGGGTGTCCAGGTGGCCAAGTACTTC
2161 CTGCGGCAGATGGCACAGCCCTTCCACCGGGAGGATCAGCTGGGCCTGTCCCTGCTCAGC
2221 CTGGAGCAGCTAGAATCAGAGGAGACGCTGAAGAGGATAGAGCAGATTGCTCAGCAGCTC
2281 TGAGTGGGGCGGGTGGGGCCATAAACGGTTCTTGGTGA

Figure 4D

MKLNVDGLLVYFPYDYIYPEQFSYMRELKRTLDAKGHGVLEMPSGTGKTVSLLALIMAYQRAYPLE
VTKLIYCSRTVPEIEKVIEELRKLLNFYEKQEGEKL PFLGLALSSRKNL CIHPEVTPLRFGKDVDG
KCHSLTASYVRAQYQHDTSLPHCRFYEEFDAHGREVPLPAGIYNLDDLKALGRRQGWCPYFLARYS
ILHANVVVYSYHYLLDPKIADLVSKELARKAVVVFDEAHNIDNVCIDSM SVNLTRRTLDR CQGNLE
TLQKTVLRIKETDEQRLRDEYRRLVEGLREASAARETDAHLANPVL PDEVLQEAVPGSIRTAEHFL
GFLRRLLEYVKWRLRVQHVVQESPPAFLSGLAQ RVCIQRKPLRFCAERLRSLLHTLEITDLADFSP
LTLLANFATLVSTYAKGFTIIIEPFDDRTPTIANPILHFSCMDASLA IKPVFERFQSVIITSGTLS
PLDIYPKILDFHPVTMATFTMTLARVCLCPMIIGRGNDQVAISSKFETREDIAVIRNYGNLLEMS
AVVPDGIVAFFTSYQYMESTVASWYEQGILENIQRNKLLFIETQDGAETSVALEKYQEACENGRGA
ILLSVARGKVSEGIDFVHHYGRAVIMFGVPYVYTQSRILKARLEYLRDQFQIRENDFLTFDAMRHA
AQCVGRAIRGKTDYGLMVFADKRFARGDKRGKLP RWIQEHLTDANLNLTVD EGVQVAKYFLRQMAQ
PFHREDQLGLSLLSLEQLESEETLKRIEQIAQQL

Figure 5A

CAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTGTTTATTTTTCTAAATAC
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AAAGGAAGAGTATGAGTATTCAACATTTCCGTGTCGCCCTTATCCCTTTTTTGCGGCAT
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GTTTTGCGCCCEGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCG
CGGTATTATCCCGTATTGACGCCGGGCAAGAGCAACTCGGTGCGCCGCATACACTATTCTC
AGAATGACTTGGTTGAGTACTCACCAGTCACAGAAAAGCATCTTACGGATGGCATGACAG
TAAGAGAATTATGCAGTGCTGCCATAACCATGAGTGATAACACTGCGGCCAACTTACTTC
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AGCGTGGGTCTCGCGGTATCATTTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCG
TAGTTATCTACACGACGGGGAGTCAGGCAACTATGGATGAACGAAATAGACAGATCGCTG
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TAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTTGC
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ATCAGAAGGCTGTAGACAAATACTGGGACAGCTACAACCATCCCTTCAGACAGGATCAGA

Figure 5B

AGAACTTAGATCATTATATAATACAGTAGCAACCCTCTATTGTGTGCATCAAAGGATAGA
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CACCGCACAGCAAGCGGCCGCTGATCTTCAGACCTGGAGCGCTCGAGGCGACTTACCTCT
CTAGAGTCGGTGTCTTCTATGGAGGTCAAACAGCGTGGATGGCGTCTCCAGGCGATCTG
ACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCCAT
TTGCGTCAATGGGGCGGAGTTGTTAEGACATTTTGGAAAGTCCCGTTGATTTTGGTGCCA
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CTATCCACGCCCATTGATGTACTGCCAAAACCGCATCACCATGGTAATAGCGATGACTAA
TACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAGGTCATGTACTGGGCATAATGCCA
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ATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGT
CCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGGTCTGTT
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CCGAGTTCATGCGCTTCAAGGTGCGCATGGAGGGCACCGTGAACGGCCACGAGTTCGAGA
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CCAAGGGCGGGCCCCCTGCCCTTCGCCTGGGACATCCTGTCCCCCAGTTCAGTACGGCT
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TCCCCTCCGACGGCCCCGTGATGCAGAAGAAGACCATGGGCTGGGAGGCCTCCACCGAGC
GCCTGTACCCCCGCGAGGGCGTGCTGAAGGGCGAGACCCACAAGGCCCTGAAGCTGAAGG

Figure 5C

ACGGCGGCCACTACCTGGTGGAGTTCAAGTCCATCTACATGGCCAAGAAGCCCGTGCAGC
TGCCCGGCTACTACTACGTGGACGCCAAGCTGGACATCACCTCCCACAACGAGGACTACA
CCATCGTGGAGCAGTACGAGCGCACCGAGGGCCGCCACCACCTGTTCTGTAGCGGGGCC
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CCCGTATGGCTTTCATTTTCTCCTCCTTGATAAATCCTGGTTGCTGTCTCTTTATGAGG
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TGCTCGCCTGTGTTGCCACCTGGATTCTGCGCGGGACGTCCTTCTGCTACGTCCTTCGG
CCCTCAATCCAGCGGACCTTCCTTCCCGCGGCCTGCTGCCGGCTCTGCGGCCTCTTCGCG
GTCTTCGCCTTCGCCCTCAGACGAGTCGGATCTCCCTTTGGGCGCCTCCCCGCTGGAA
TTCCGCGACTCTAGATCATAATCAGCCATACCACATTTGTAGAGGTTTTACTTGCTTTAA
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AACCAGGCGGGGAGGCGGCCCAAAGGGAGATCCGACTCGTCTGAGGGCGAAGGCGAAGAC
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CCGAAGGGACGTAGCAGAAGGACGTCCCGCGCAGAATCCAGGTGGCAACACAGGCGAGCA
GCCATGGAAAGGACGTACGCTTCCCCGACAACACCACGGAATTGTCAGTGCCCAACAGCC
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TGCTCAGGTAGTGGTTGTGCGGCAGCAGCACGGGGCCGTGCCCGATGGGGGTGTTCTGCT
GGTAGTGGTCGGCGAGCTGCACGCTGCCGTCTCGATGTTGTGGCGGATCTTGAAGTTCA
CCTTGATGCCGTTCTTCTGCTTGTGCGCCATGATATAGACGTTGTGGCTGTTGTAGTTGT
ACTCCAGCTTGTGCCCCAGGATGTTGCCGTCTCCTTGAAGTCGATGCCCTTCAGCTCGA
TGCGGTTACACCAGGGTGTGCGCCTCGAACTTCACCTCGGCGCGGGTCTTGTAGTTGCCGT
CGTCCTTGAAGAAGATGGTGCCTCCTGGACGTAGCCTTCGGGCATGGCGGACTTGAAGA
AGTCGTGCTGCTTCATGTGGTGGGGTAGCGGCTGAAGCACTGCACGCCGTAGGTCAGGG
TGGTCACGAGGGTGGGCCAGGGCACGGGCAGCTTGCCGGTGGTGCAGATGAACTTCAGGG
TCAGCTTGCCGTAGGTGGCATCGCCCTCGCCCTCGCCGGACACGCTGAACTTGTGGCCGT
TTACGTGCGCGTCCAGCTCGACCAGGATGGGCACCACCCCGGTGAACAGCTCCTCGCCCT
TGCTCACCATGGTGGCGACCGGTGGATCCTGAAGAAAAGGGAGAATTCGAATTTCAGACTC
GGTACCTTTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTAAAAGA
AAAGGGGGGACTGGAAGGGCTAATTCCTCCCAACGAAGACAAGATCTGCTTTTGTCTTG
TACTGGGTCTCTCTGGTTAGACCAGATCTGAGCCTGGGAGCTCTCTGGCTAACTAGGGAA
CCCCTGCTTAAAGCCTCAATAAAGCTTGCCCTGAGTGCTTCAAGTAGTGTGTGCCCGTCT
GTTGTGTGACTCTGGTAACTAGAGATCCCTCAGACCCTTTTAGTCAGTGTGGAAAATCTC
TAGCAGTAGTAGTTCATGTCATCTTATTATTAGTATTTATAACTTGCAAAGAAATGAAT
ATCAGAGAGTGAGAGGAACTTGTTTATTGCAGCTTATAATGGTTACAAATAAAGCAATAG
CATCACAAATTTACAAATAAAGCATTTTTTTTCACTGCATTCTAGTTGTGGTTTGTCCAA
ACTCATCAATGTATCTTATCATGTCTGGCTCTAGCTATCCCGCCCCTAACTCCGCCAGT
TCCGCCCATCTCCGCCCATGGCTGACTAATTTTTTTTATTTATGCAGAGGCCGAGGCC

Figure 5D

GCCTCGGCCTCTGAGCTATTCCAGAAGTAGTGAGGAGGCTTTTTTGGAGGCCTAGGCTTT
TGCGTCGAGACGTACCCAATTCGCCCTATAGTGAGTCGTATTACGCGCGCTCACTGGCCG
TCGTTTTACAACGTCGTGACTGGGAAAACCCTGGCGTTACCCAACCTAATCGCCTTGCAG
CACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCC
AACAGTTGCGCAGCCTGAATGGCGAATGGCGCGACGCGCCCTGTAGCGGCGCATTAAGCG
CGGCGGGTGTGGTGGTTACGCGCAGCGTGACCGCTACACTTGCCAGCGCCCTAGCGGCGG
CTCCTTTTCGCTTTCCTCCCTTCCTTCTCGCCACGTTTCGCCGGCTTTCCCCGTCAAGCTC
TAAATCGGGGGCTCCCTTTAGGGTTCCGATTTAGTGCTTTACGGCACCTCGACCCCCAAA
AACTTGATTAGGGTGATGGTTCACGTAGTGGGCCATCGCCCTGATAGACGGTTTTTTCGCC
CTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAAACTGGAACAACAC
TCAACCCTATCTCGGTCTATTCTTTTGATTTATAAGGGATTTTGCCGATTTTCGGCCTATT
GGTTAAAAAATGAGCTGATTTAACAAAAATTTAACGCGAATTTTAACAAAATATTAACGT
TTACAATTTCC

Figure 6A

CCGGTCGCCACCATGGCCTCCTCCGAGAACGTCATCACCGAGTTCATGCGCTTCAAGGTGCGCA
TGGAGGGCACCCTGAACGGCCACGAGTTCGAGATCGAGGGCGAGGGCGAGGGCCGCCCTACGA
GGGCCACAACACCGTGAAGCTGAAGGTGACCAAGGGCGGCCCCCTGCCCTTCGCCTGGGACATC
CTGTCCCCCAGTTCAGTACGGCTCCAAGGTGTACGTGAAGCACCCCGCCGACATCCCCGACT
ACAAGAAGCTGTCCTTCCCCGAGGGCTTCAAGTGGGAGCGCGTGATGAACCTTCGAGGACGGCGG
CGTGGCGACCGTGACCCAGGACTCCTCCCTGCAGGACGGCTGCTTCATCTACAAGGTGAAGTTC
ATCGGCGTGAACCTTCCCCTCCGACGGCCCCGTGATGCAGAAGAAGACCATGGGCTGGGAGGCCT
CCACCGAGCGCCTGTACCCCCGCGACGGCGTGCTGAAGGGCGAGACCCACAAGGCCCTGAAGCT
GAAGGACGGCGGCCACTACCTGGTGGAGTTCAGTCCATCTACATGGCCAAGAAGCCCGTGCGAG
CTGCCCGGCTACTACTACGTGGACGCCAAGCTGGACATCACCTCCCACAACGAGGACTACACCA
TCGTGGAGCAGTACGAGCGCACCGAGGGCCGCCACCACCTGTTCCCTGTAGCGGCCGCGACTCTA
GATCATAATCAGCCATACCACATTTGTAGAGGTTTTACTTGCTTTAAAAAACCTCCCACACCTC
CCCCTGAACCTGAAACATAAAATGAATGCAATTGTTGTTGTTAACTTGTTTATTGCAGCTTATA
ATGGTTACAAATAAAGCAATAGCATCACAAATTCACAAATAAAGCATTTTTTTTCACTGCATTC
TAGTTGGATCCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTG
CAATAACAAGTTAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGGAGGTGTGG
GAGGTTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGCTGAATTCAGGCGGGGAGGC
GGCCCAAAGGGAGATCCGACTCGTCTGAGGGCGAAGGCGAAGACGCGGAAGAGGCCGCGAGAGCC
GGCAGCAGGCCGCGGGAAGGAAGGTCCGCTGGATTGAGGGCCGAAGGGACGTAGCAGAAGGACG
TCCCGCGCAGAATCCAGGTGGCAACACAGGCGAGCAGCCATGGAAAGGACGTACGCTTCCCCGA
CAACACCACGGAATTGTGAGTGCCCAACAGCCGAGCCCCTGTCCAGCAGCGGGCAAGGCAGGCG
GCGATGAGTTCCGCCGTGGCAATAGGGAGGGGGAAAGCGAAAGTCCCGGAAAGGAGCTGACAGG
TGGTGGCAATGCCCCAACCAGTGGGGGTTGCGTCAGCAAACACAGTGCACACCACGCCACGTTG
CCTGACAACGGGCCACAACCTCCTCATAAAGAGACAGCAACCAGGATTTATACAAGGAGGAGAAA
ATGAAAGCCATACGGGAAGCAATAGCATGATACAAAGGCATTAAAGCAGCGTATCCACATAGCG
TAAAAGGAGCAACATAGTTAAGAATACCAGTCAATCTTTCACAAATTTTGTAATCCAGAGGTTG
ATTGTGACGCGCGGCCGCTTTACTTGTACAGCTCGTCCATGCCGAGAGTGATCCCGGCGGCGGTC
ACGAACTCCAGCAGGACCATGTGATCGCGCTTCTCGTTGGGGTCTTTGCTCAGGGCGGACTGGG
TGCTCAGGTAGTGGTTGTGCGGCAGCAGCACGGGGCCGTGCGCGATGGGGGTGTTCTGCTGGTA
GTGGTGGCGAGCTGCACGCTGCCGTCTCGATGTTGTGGCGGATCTTGAAGTTCACCTTGATG
CCGTTCTTCTGCTTGTGCGCCATGATATAGACGTTGTGGCTGTTGTAGTTGTACTCCAGCTTGT
GCCCCAGGATGTTGCCGTCTCCTTGAAGTCGATGCCCTTCAGCTCGATGCGGTTACACAGGGT
GTCGCCCTCGAACTTCACCTCGGCGCGGGTCTTGTAGTTGCCGTGCTCCTTGAAGAAGATGGTG
CGCTCCTGGACGTAGCCTTCGGGCATGGCGGACTTGAAGAAGTCGTGCTGCTTCATGTGGTCGG
GGTAGCGGCTGAAGCACTGCACGCCGTAGGTGAGGGTGGTCACGAGGGTGGGCCAGGGCACGGG
CAGCTTGCCGGTGGTGCAGATGAACCTTCAGGGTCAGCTTGCCGTAGGTGGCATCGCCCTCGCCC
TCGCCGGACACGCTGAACTTGTGGCCGTTTACGTGCGCGTCCAGCTCGACCAGGATGGGCACCA
CCCCGGTGAACAGCTCCTCGCCCTTGCTCACCATCTGAAGAAAAGGGAGGTACCTTTAAGACCA
ATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTTTAAAGAAAAGGGGGGACTGGAAGGGC
TAATTCACCTCCAACGAAGACAAGATATCCTTGATCTGTGGATCTACCACACACAAGGCTACTT
CCCTGATTGGCAGAACTACACACCAGGGCCAGGGATCAGATATCCACTGACCTTTGGATGGTGC
TACAAGCTAGTACCAGTTGAGCAAGAGAAGGTAGAAGAAGCCAATGAAGGAGAGAACACCCGCT
TGTTACACCCTGTGAGCCTGCATGGGATGGATGACCCGGAGAGAGAAGTATTAGAGTGGAGGTT
TGACAGCCGCCTAGCATTTTCATCACATGGCCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGC
TGACATCGAGCTTGCTACAAGGGACTTTCGCTGGGGACTTTCCAGGGAGGCGTGGCCTGGGCG
GGACTGGGGAGTGGCGAGCCCTCAGATGCTGCATATAAGCAGCTGCTTTTTTGCTTGTACTGGGT
CTCTCTGGTTAGACCAGATCTGAGCCTGGGAGCTCTCTGGCTAACTAGGGAACCCACTGCTTAA
GCCTCAATAAAGCTTGCCCTTGAGTGCTTCAAGTAGTGTGTGCCCGTCTGTTGTGTGACTCTGGT
AACTAGAGATCCCTCAGACCCTTTTAGTCAGTGTGGAAAATCTCTAGCAGTAGTAGTTCATGTC
ATCTTATTATTACAGTATTTATAACTTGCAAAGAAATGAATATCAGAGAGTGAGAGGCCTTGACA

Figure 6B

TTATAATAGATTTAGCAGGAATTGAACTAGGAGTGGAGCACACAGGCAAAGCTGCAGAAGTACT
TGGAAGAAGCCACCAGAGATACTCACGATTCTGCACATACCTGGCTAATCCCAGATCCTAAGGA
TTACATTAAGTTTACTAACATTTATATAATGATTTATAGTTTAAAGTATAAACTTATCTAATTT
ACTATTCTGACAGATATTAATTAATCCTCAAATATCATAAGAGATGATTACTATTATCCCCATT
TAACACAAGAGGAACTGAGAGGGGAAAGATGTTGAAGTAATTTTCCCACAATTACAGCATCCGT
TAGTTACGACTCTATGATCTTCTGACACAAATTCATTTACTCCTCACCTATGACTCAGTCGA
ATATATCAAAGTTATGGACATTATGCTAAGTAACAAATTACCCTTTTATATAGTAAATACTGAG
TAGATTGAGAGAAGAAATTGTTTGGCAAACCTGAATAGCTTCCAGAAGAAGAGAAGTGAGGATA
AGAATAACAGTTGTCATTAACCAGTTTTAACAAGTAACTTGTTAGAAAGGGATTCAAATGCAT
AAAGCAAGGGATAAATTTTTCTGGCAACAAGACTATACAATATAACCTTAAATATGACTTCAA
TAATTGTTGGAACCTTGATAAACTAATTAAATATTATTGAAGATTATCAATATTATAAATGTAA
TTTACTTTTAAAAAGGGAACATAGAAATGTGTATCATTAGAGTAGAAAACAATCCTTATTATCA
CAATTTGTCAAAACAAGTTTGTATTAAACACAAGTAGAATACTGCATTCAATTAAGTTGACTGC
AGATTTTGTGTTTTGTATAAATTAGAAAGAGATAACAACAATTTGAATTATTGAAAGTAACATG
TAAATAGTTCTACATACGTTCTTTTGACATCTTGTTCAATCATTGATCGAAGTTCTTTATCTTG
GAAGAATTTGTTCCAAAGACTCTGAAATAAGGAAAACAATCTATTATATAGTCTCACACCTTTG
TTTTACTTTTAGTGATTTCAATTTAATAATGTAAATGGTTAAAATTTATTCTTCTCTGAGATCA
TTTCACATTGCAGATAGAAAACCTGAGACTGGGGTAATTTTTATTAAAATCTAATTTAATCTCA
GAAACACATCTTTATTCTAACATCAATTTTTTCCAGTTTGATATTATCATATAAAGTCAGCCTTC
CTCATCTGCAGGTTCCACAACAAAAATCCAACCAACTGTGGATCAAAAATATTGGGAAAAAATT
AAAAATAGCAATACAACAATAAAAAAATACAAATCAGAAAAACAGCACAGTATAACAACCTTTAT
TTAGCATTTACAATCTATTAGGTATTATAAGTAATCTAGAATTAATTCGGTGTATTCTATAGTG
TCACCTAAATCGTATGTGTATGATACATAAGGTTATGTATTAATTGTAGCCGCGTTCTAACGAC
AATATGTACAAGCCTAATTGTGTAGCATCTGGCTTACTGAAGCAGACCCTATCATCTCTCTCGT
AAACTGCCGTCAGAGTCGGTTTGGTTGGACGAACCTTCTGAGTTTCTGGTAACGCCGTTCCGCA
CCCCGGAAATGGTCAGCGAACCAATCAGCAGGGTCATCGCTAGCCAGATCCTCTACGCCGGACG
CATCGTGGCCGGCATCACCGGCGCCACAGGTGCGGTTGCTGGCGCCTATATCGCCGACATCACC
GATGGGGAAGATCGGGCTCGCCACTTCGGGCTCATGAGCGCTTGTTTCGGCGTGGGTATGGTGG
CAGGCCCCGTGGCCGGGGGACTGTTGGGCGCCATCTCCTTGATGCACCATTCTTGCGGCGGC
GGTGCTCAACGGCCTCAACCTACTACTGGGCTGCTTCCTAATGCAGGAGTCGCATAAGGGAGAG
CGTCGATATGGTGCATCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGACA
CCCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGCTCTGCTCCCGGCATCCGCTTACAGACAA
GCTGTGACCGTCTCCGGGAGCTGCATGTGTGAGAGGTTTTACCGTCATCACCGAAACGCGCGA
GACGAAAGGGCCTCGTGATACGCCTATTTTTATAGGTTAATGTCATGATAATAATGGTTTCTTA
GACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTGTTTTATTTTTCTAAATA
CATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATATTGAAAAA
GGAAGAGTATGAGTATTCAACATTTCCGTGTCGCCCTTATTCCTTTTTTTCGGGCATTTTGCCT
TCCTGTTTTTGTCTACCCAGAAACGCTGGTGAAAGTAAAGATGCTGAAGATCAGTTGGGTGCA
CGAGTGGGTTACATCGAACTGGATCTCAACAGCGGTAAGATCCTTGAGAGTTTTCGCCCCGAAG
AACGTTTTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGGTATTATCCCGTATTGA
CGCCGGGCAAGAGCAACTCGGTCGCCGCATACACTATTCTCAGAATGACTTGTTGAGTACTCA
CCAGTCACAGAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGCTGCCATAA
CCATGAGTGATAACACTGCGGCCAACTTACTTCTGACAACGATCGGAGGACCGAAGGAGCTAAC
CGTTTTTTTTGCACAACATGGGGGATCATGTAACCTGCCTTGATCGTTGGGAACCGGAGCTGAAT
GAAGCCATAACCAACGACGAGCGTGACACCACGATGCCTGTAGCAATGGCAACAACGTTGCGCA
AACTATTAACCTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAATAGACTGGATGGAGGC
GGATAAAGTTGCAGGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAA
TCTGGAGCCGGTGAGCGTGGGTCTCGCGGTATCATTGACGACTGGGGCCAGATGGTAAGCCCT

Figure 6C

CCCGTATCGTAGTTATCTACACGACGGGGAGTCAGGCAACTATGGATGAACGAAATAGACAGAT
CGCTGAGATAGGTGCCTCACTGATTAAGCATTGGTAAGTGTGACACCAAGTTTACTCATATATA
CTTTAGATTGATTTAAACTTCATTTTTTAATTTAAAGGATCTAGGTGAAGATCCTTTTTTGATA
ATCTCATGACCAAATCCCTTAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAA
GATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAA
CCACCGCTACCAGCGGTGGTTTGGTTGCCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTAA
CTGGCTTCAGCAGAGCGCAGATACCAAATACTGTCCTTCTAGTGTAGCCGTAGTTAGGCCACCA
CTTCAAGAACTCTGTAGCACCGCCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCT
GCCAGTGGCGATAAGTCGTGTCTTACCGGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGC
AGCGGTCGGGCTGAACGGGGGGTTTCGTGCACACAGCCAGCTTGGAGCGAACGACCTACACCGA
ACTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAGCGGGAC
AGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGGAAACG
CCTGGTATCTTTATAGTCCTGTGCGGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATG
CTCGTCAGGGGGGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCCTTTTTACGGTTCCTGGCC
TTTTGCTGGCCTTTTGCTCACATGTTCTTTCCTGCGTTATCCCCTGATTCTGTGGATAACCGTA
TTACCGCCTTTGAGTGAGCTGATACCGCTCGCCGCAGCCGAACGACCGAGCGCAGCGAGTCACT
GAGCGAGGAAGCGGAAGAGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCAT
TAATGCAGCTGTGGAATGTGTGTCAGTTAGGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAG
AAGTATGCAAAGCATGCATCTCAATTAGTCAAGCAACCAGGTGTGGAAAGTCCCCAGGCTCCCCA
GCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCAGCAACCATAGTCCCGCCCCTAAGTC
CGCCCATCCCGCCCCCTAACTCCGCCAGTTCCGCCCATTTCTCGCCCCATGGCTGACTAATTTT
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TTTTTTGAGGCCCTAGGCTTTTGCAAAAAGCTTGGACACAAGACAGGCTTGGCAGATATGTTTG
AGAATACCACTTTATCCCGCGTCAGGGAGAGGCAGTGCCTAAAAAGACGCGGACTCATGTGAAA
TACTGGTTTTTAGTGCGCCAGATCTCTATAATCTCGCGCAACCTATTTTCCCTCGAACACTTT
TTAAGCCGTAGATAAACAGGCTGGGACACTTCACATGAGCGAAAAATACATCGTCACCTGGGAC
ATGTTGCAGATCCATGCACGTAACTCGCAAGCCGACTGATGCCTTCTGAACAATGGAAAGGCA
TTATTGCCGTAAGCCGTGGCGGTCTGTACCGGGTTCGCTTACTGGCGCGTGAACGGGTATTCGT
CATGTCGATACCGTTTGTATTTCCAGCTACGATCACGACAACCAGCGCGAGCTTAAAGTGCTGA
AACGCGCAGAAGGCGATGGCGAAGGCTTCATCGTTATTGATGACCTGGTGGATACCGGTGGTAC
TGCGGTTGCGATTTCGTGAAATGTATCCAAAAGCGCACCTTTGTACCATCTTCGCAAAACCGGCT
GGTCGTCCGCTGGTTGATGACTATGTTGTTGATATCCCGCAAGATACCTGGATTGAACAGCCGT
GGGATATGGGCGTCGTATTCGTCCCGCCAATCTCCGGTCGCTAATCTTTTCAACGCCTGGCACT
GCCGGGCGTTGTTCTTTTTAACTTCAGGCGGGTTACAATAGTTTCCAGTAAGTATTCTGGAGGC
TGCATCCATGACACAGGCAAACCTGAGCGAAACCTGTTCAAACCCCGCTTTAAACATCCTGAA
ACCTCGACGCTAGTCCGCCGCTTTAATCACGGCGCACAAACCGCCTGTGCAGTCGGCCCTTGATG
GTAAACCATCCCTCACTGGTATCGCATGATTAACCGTCTGATGTGGATCTGGCGCGGCATTGA
CCCACGCGAAATCCTCGACGTCCAGGCACGTATTGTGATGAGCGATGCCGAACGTACCGACGAT
GATTTATACGATACGGTGATTGGCTACCGTGGCGGCAACTGGATTTATGAGTGGGCCCCGGATC
TTTGTGAAGGAACCTTACTTCTGTGGTGTGACATAATTGGACAAACTACCTACAGAGATTTAAA
GCTCTAAGGTAAATATAAAATTTTTAAGTGTATAATGTGTTAACTACTGATTCTAATTGTTTG
TGTATTTTAGATTCCAACCTATGGAACCTGATGAATGGGAGCAGTGGTGGAAATGCCTTTAATGAG
GAAAACCTGTTTTGCTCAGAAGAAATGCCATCTAGTGATGATGAGGCTACTGCTGACTCTCAAC
ATTCTACTCCTCCAAAAAAGAAGAGAAAGGTAGAAGACCCCAAGGACTTTCTTCAGAATTGCT
AAGTTTTTTGAGTCATGCTGTGTTTAGTAATAGAAGTCTTGCTTGCTTTGCTATTTACACCACA
AAGGAAAAGCTGCACTGCTATACAAGAAAATTATGGAAAAATATTCTGTAACCTTTATAAGTA
GGCATAACAGTTATAATCATAACATACTGTTTTTTCTTACTCCACACAGGCATAGAGTGTCTGC
TATTAATAACTATGCTCAAAAATTGTGTACCTTTAGCTTTTTTAATTTGTAAAGGGGTTAATAAG
GAATATTTGATGTATAGTGCTTGACTAGAGATCATAATCAGCCATACCACATTTGTAGAGGTT
TACTTGCTTTAAAAAACCTCCACACCTCCCCCTGAACCTGAAACATAAAATGAATGCAATTG

Figure 6D

TTGTTGTTAACTTGTTTATTGCAGCTTATAATGGTTACAAATAAAGCAATAGCATCACAAATTT
CACAAATAAAGCATTTTTTTCCTGCTTCTAGTTGTGGTTTGTCCAACTCATCAATGTATCT
TATCATGTCTGGATCAACTGGATAACTCAAGCTAACCAAAATCATCCCAAACCTCCCACCCCAT
ACCCTATTACCACTGCCAATTACCTGTGGTTTCATTTACTCTAAACCTGTGATTCCTCTGAATT
ATTTTCATTTTAAAGAAATTGTATTTGTTAAATATGTACTACAACTTAGTAGT